

FIGURE 1A

ATGGGCGCACTGGCCCCG GCGCTGCTGCTG CCTCTGCTGGCC CAGTGGCTCCTG CGCGCC
M G A L A R A L L L P L L A Q W L L R A
CCCCGGAGCTGGCCCCG CGCCCTTACGC TGCCCTCCGGG TGGCCGCGGCCA CGAAC
A P E L A P A P F T L P L R V A A A T N
CGCGTAGTTGCGCCACC CCGGACCCGGG ACCCTGCCGAG CGCCACGCCGAC GGCTTG
R V V A P T P G P G T P A E R H A D G L
GCGCTCGCCCTGGAGCCT GCCCTGGCGTCC CCCGCGGGCGCC GCCAACTTCTTG GCCATG
A L A L E P A L A S P A G A A N F L A M
GTAGACAACCTGCAGGGG GACTCTGGCCGC GGCTACTACCTG GAGATGCTGATC GGGACC
V D N L Q G D S G R G Y Y L E M L I G T

CCCCCGCAGAAGCTACAG ATTCTCGTTGAC ACTGGAAGCAGT AACTTTGCCGTG GCAGGA
P P Q K L Q I L V D T G S S N F A V A G

ACCCCGCACTCTACATA GACACGTACTTT GACACAGAGAGG TCTAGCACATAC CGCTCC
T P H S Y I D T Y F D T E R S S T Y R S

AAGGGCTTTGACGTCACA GTGAAGTACACA CAAGGAAGCTGG ACGGGCTTCGTT GGGGAA
K G F D V T V K Y T Q G S W T G F V G E

GACCTCGTCACCATCCCC AAAGGCTTCAAT ACTTCTTTTCTT GTCAACATTGCC ACTATT
D L V T I P K G F N T S F L V N I A T I

TTTGAATCAGAGAATTTT TTTTTCCTGGG ATTAAATGGAAT GGAATACTTGGC CTAGCT
F E S E N F F L P G I K W N G I L G L A

TATGCCACACTTGCCAAG CCATCAAGTTCT CTGGAGACCTTC TTCGACTCCCTG GTGACA
Y A T L A K P S S S L E T F F D S L V T

CAAGCAAACATCCCCAAC GTTTTCTCCATG CAGATGTGTGGA GCCGGCTTGCCC GTTGCT
Q A N I P N V F S M Q M C G A G L P V A

GGATCTGGGACCAACGGA GGTAGTCTTGTC TTGGGTGGAATT GAACCAAGTTTG TATAAA
G S G T N G G S L V L G G I E P S L Y K

GGAGACATCTGGTATACC CCTATTAAGGAA GAGTGGTACTAC CAGATAGAAATT CTGAAA
G D I W Y T P I K E E W Y Y Q I E I L K

TTGGAATTTGGAGGCCAA AGCCTTAATCTG GACTGCAGAGAG TATAACGCAGAC AAGGCC
L E I G G Q S L N L D C R E Y N A D K A

ATCGTGGACAGTGGCACC ACGCTGCTGCGC CTGCCCCAGAAG GTGTTTGATGCG GTGGTG
I V D S G T T L L R L P Q K V F D A V V

GAAGCTGTGGCCCGCGCA TCTCTGATTCCA GAATTCTCTGAT GGTTCCTGGACT GGGTCC
E A V A R A S L I P E F S D G F W T G S

CAGCTGGCGTGCTGGACG AATTCGGAACA CCTTGGTCTTAC TTCCCTAAATC TCCATC
Q L A C W T N S E T P W S Y F P K I S I

TACCTGAGAGATGAGAAC TCCAGCAGGTCA TTCCGTATCACA ATCCTGCCTCAG CTTTAC
Y L R D E N S S R S F R I T I L P Q L Y

ATTCAGCCCATGATGGGG GCCGGCCTGAAT TATGAATGTTAC CGATTCCGGCATT TCCCCA
I Q P M M G A G L N Y E C Y R F G I S P

TCCACAAATGCGCTGGTG ATCGGTGCCACG GTGATGGAGGGC TTCTACGTCATC TTCGAC
S T N A L V I G A T V M E G F Y V I F D

AGAGCC CAGAAGAGGGTG GGCTTCGAGCG AGCCCCTGTGCA GAAATTGCAGGT GCTGCA

FIGURE 1B

R A Q K R V G F A A S P C A E I A G A A
GTGTCTGAAATTTCCGGGCCTTTCTCAACAGAGGATGTAGCCAGCAACTGTGTCCCCGCT
V S E I S G P F S T E D V A S N C V P A
CAGTCTTTGAGCGAGCCCATTTTGTGGATTGTGTCCTATGCGCTCATGAGCGTCTGTGGA
Q S L S E P I L W I V S Y A L M S V C G
GCCATCCTCCTTGTCTTAATCGTCCTGCTGCTGCTGCCGTTCCGGTGTGAGCGTCGCCCC
A I L L V L I V L L L L P F R C Q R R P
CGTGACCCTGAGGTCGTCAATGATGAGTCCTCTCTGGTCAGACATCGCTGGAAATGAATA
R D P E V V N D E S S L V R H R W K
GCCAGGCCTGACCTCAAGCAACCATGAACTCAGCTATTAAGAAAATCACATTTCCAGGGC
AGCAGCCGGGATCGATGGTGGCGCTTTCTCCTGTGCCACCCGTCTTCAATCTCTGTTCT
GCTCCCAGATGCCTTCTAGATTCACTGTCTTTTGATTCTTGATTTTCAAGCTTTCAAATC
CTCCCTACTTCCAAGAAAAATAATAAAAAAAAAACTTCATTCTAAACCAAAAAAAAAAA
AAAA

TTGGCCCAAGCCCTGCCCC TGGCTCCTGCTG TGGATGGGCGCG GAGTGTCCTGCCCT GCCACG
 M A Q A L P W L L L W M G A G V L P A H
 GGCACCCAGCACGGCATC CGGCTGCCCCCTG CGCAGCGGCCTG GGGGGCGCCCCC CTGGGG
 G T Q H G I R L P L R S G L G G A P L G
 CTGCGGCTGCCCCGGGAG ACCGACGAAGAG CCCGAGGAGCCC GGCCGGAGGGGC AGCTTT
 L R L P R E T D E E P E E P G R R G S F
 GTGGAGATGGTGGACAAC CTGAGGGGCAAG TCGGGGCAGGGC TACTACGTGGAG ATGACC
 V E M V D N L R G K S G Q G Y Y V E M T
 GTGGGCAGCCCCCGCAG ACGCTCAACATC CTGGTGGATACA GGCAGCAGTAAC TTTGCA
 V G S P P Q T L N I L V D T G S S N F A
 GTGGGTGCTGCCCCCAC CCCTTCCTGCAT CGCTACTACCAG AGGCAGCTGTCC AGCACA
 V G A A P H P F L H R Y Y Q R Q L S S T
 TACCGGGACCTCCGGAAG GGTGTGTATGTG CCCTACACCCAG GGCAAGTGGGAA GGGGAG
 Y R D L R K G V Y V P Y T Q G K W E G E
 CTGGGCACCGACCTGGTA AGCATCCCCAT GGCCCCAACGTC ACTGTGCGTGCC AACATT
 L G T D L V S I P H G P N V T V R A N I
 GCTGCCATCACTGAATCA GACAAGTTCTTC ATCAACGGCTCC AACTGGGAAGGC ATCCTG
 A A I T E S D K F F I N G S N W E G I L
 GGGCTGGCCTATGCTGAG ATTGCCAGGCTT TGTGGTGCTGGC TTCCCCCTCAAC CAGTCT
 G L A Y A E I A R L C G A G F P L N Q S
 GAAGTGCTGGCCTCTGTC GGAGGGAGCATG ATCATTGGAGGT ATCGACCACTCG CTGTAC
 E V L A S V G G S M I I G G I D H S L Y
 ACAGGCAGTCTCTGGTAT ACACCCATCCGG CGGGAGTGGTAT TATGAGGTGATC ATTGTG
 T G S L W Y T P I R R E W Y Y E V I I V
 CGGGTGGAGATCAATGGA CAGGATCTGAAA ATGGACTGCAAG GAGTACAACATAT GACAAG
 R V E I N G Q D L K M D C K E Y N Y D K
 AGCATTGTGGACAGTGGC ACCACCAACCTT CGTTTGCCCCAAG AAAGTGTTTGAA GCTGCA
 S I V D S G T T N L R L P K K V F E A A
 GTCAAAATCCATCAAGGCA GCCTCCTCCACG GAGAAGTTCCTT GATGGTTTCTGG CTAGGA
 V K S I K A A S S T E K F P D G F W L G
 GAGCAGCTGGTGTGCTGG CAAGCAGGCACC ACCCCTTGGAAAC ATTTTCCAGTC ATCTCA
 E Q L V C W Q A G T T P W N I F P V I S
 CTCTACCTAATGGGTGAG GTTACCAACCAG TCCTTCCGCATC ACCATCCTTCCG CAGCAA
 L Y L M G E V T N Q S F R I T I L P Q Q
 TACCTGCGGCCAGTGGAA GATGTGGCCACG TCCCAAGACGAC TGTTACAAGTTT GCCATC

FIGURE 2B

Y L R P V E D V A T S Q D D C Y K F A I
TCACAGTCATCCACGGGC ACTGTTATGGGAGCTGTTATCATG GAGGGCTTCTAC GTTGTG
S Q S S T G T V M G A V I M E G F Y V V
TTTGATCGGGCCCCGAAAA CGAATTGGCTTT GCTGTCAGCGCT TGCCATGTGCAC GATGAG
F D R A R K R I G F A V S A C H V H D E
TTCAGGACGGCAGCGGTG GAAGGCCCTTTT GTCACCTTGGAC ATGGAAGACTGT GGCTAC
F R T A A V E G P F V T L D M E D C G Y
AACATTCCACAGACAGAT GAGTCAACCCTCATGACCATAGCC TATGTCATGGCT GCCATC
N I P Q T D E S T L M T I A Y V M A A I
TGCGCCCTCTTCATGCTG CCACTCTGCCTCATGGTGTGTCAG TGGCGCTGCCTC CGCTGC
C A L F M L P L C L M V C Q W R C L R C
CTGCGCCAGCAGCATGAT GACTTTGCTGAT GACATCTCCCTG CTGAAGTGAGGA GGCCCA
L R Q Q H D D F A D D I S L L K
TGGGCAGAAGATAGAGAT TCCCCTGGACCA CACCTCCGTGGT TCACTTTGGTCA CAAGTA
GGAGACACAGATGGCACC TGTGGCCAGAGC ACCTCAGGACCC TCCCCACCCACC AAATGC
CTCTGCCTTGATGGAGAA GGAAAAGGCTGG CAAGGTGGGTTC CAGGGACTGTAC CTGTAG
GAAACA GAAAAGAGAAGA AAGAAGCACTCT GCTGGCGGGAAT ACTCTTGGTCAC CTCAAA
TTTAAGTCGGGAAATTCT GCTGCTTGAAAC TTCAGCCCTGAA CCTTTGTCCACC ATTCCT
TTAAAT TCTCCAACCCAA AGTATTCTTCTT TTCTTAGTTTCA GAAGTACTGGCA TCACAC
GCAGGT TACCTTGGCGTG TGTCCCTGTGGT ACCCTGGCAGAG AAGAGACCAAGC TTGTTT
CCCTGCTGGCCAAAGTCA GTAGGAGAGGAT GCACAGTTTGCT ATTTGCTTTAGA GACAGG
GACTGTATAAACAAAGCCT AACATTGGTGCA AAGATTGCCTCT TGAAAAAAAAAAA AAA

FIGURE 3A

ATGGCCCAAGCCCTGCCC TGGCTCCTGCTG TGGATGGGCGCG GGAGTGCTGCCT GCCCAC
M A Q A L P W L L L W M G A G V L P A H

GGCACC CAGCACGGCATC CGGCTGCCCCTG CGCAGCGGCCTG GGGGGCGCCCC CTGGGG
G T Q H G I R L P L R S G L G G A P L G

CTGCGG CTGCCCCGGGAG ACCGACGAAGAG CCCGAGGAGCCC GGCCGGAGGGGC AGCTTT
L R L P R E T D E E P E E P G R R G S F

GTGGAGATGGTGGACAAC CTGAGGGGCAAG TCGGGGCAGGGC TACTACGTGGAG ATGACC
V E M V D N L R G K S G Q G Y Y V E M T

GTGGGCAGCCCCCGCAG ACGCTCAACATC CTGGTGGATACA GGCAGCAGTAAC TTTGCA
V G S P P Q T L N I L V D T G S S N F A

GTGGGTGCTGCCCCCAC CCCTTCCTGCAT CGCTACTACCAG AGGCAGCTGTCC AGCACA
V G A A P H P F L H R Y Y Q R Q L S S T

TACCGGGACCTCCGGAAG GGTGTGTATGTG CCCTACACCCAG GGCAAGTGGGAA GGGGAG
Y R D L R K G V Y V P Y T Q G K W E G E

CTGGGCACCGACCTGGTA AGCATCCCCCAT GGCCCCAACGTC ACTGTGCGTGCC AACATT
L G T D L V S I P H G P N V T V R A N I

GCTGCCATCACTGAATCA GACAAGTTCTTC ATCAACGGCTCC AACTGGGAAGGC ATCCTG
A A I T E S D K F F I N G S N W E G I L

GGGCTGGCCTATGCTGAG ATTGCCAGGCCT GACGACTCCCTG GAGCCTTTCTTT GACTCT
G L A Y A E I A R P D D S L E P F F D S

CTGGTAAAGCAGACCCAC GTTCCCAACCTC TTCTCCCTGCAG CTTTGTGGTGCT GCCTTC
L V K Q T H V P N L F S L Q L C G A G F

CCCCTCAACCAGTCTGAA GTGCTGGCCTCT GTCGGAGGGAGC ATGATCATTGGA GGTATC
P L N Q S E V L A S V G G S M I I G G I

GACCACTCGCTGTACACA GGCAGTCTCTGG TATACACCCATC CGGCGGGAGTGG TATTAT
D H S L Y T G S L W Y T P I R R E W Y Y

GAGGTCATCATTGTGCGG GTGGAGATCAAT GGACAGGATCTG AAAATGGACTGC AAGGAG
E V I I V R V E I N G Q D L K M D C K E

TACAACTATGACAAGAGC ATTGTGGACAGT GGCACCACCAAC CTTCGTTTGCCC AAGAAA
Y N Y D K S I V D S G T T N L R L P K K

GTGTTTGAAGCTGCAGTC AAATCCATCAAG GCAGCCTCCTCC ACGGAGAAAGTTC CCTGAT
V F E A A V K S I K A A S S T E K F P D

FIGURE 3B

GGTTTCTGGCTAGGAGAG CAGCTGGTGTGC TGGCAAGCAGGC ACCACCCCTTGG AACATT
G F W L G E Q L V C W Q A G T T P W N I

TTCCCAGTCATCTCACTC TACCTAATGGGT GAGGTTACCAAC CAGTCCTTCCGC ATCACC
F P V I S L Y L M G E V T N Q S F R I T

ATCCTTCCGCAGCAATAC CTGCGGCCAGTG GAAGATGTGGCC ACGTCCCAAGAC GACTGT
I L P Q Q Y L R P V E D V A T S Q D D C

TACAAGTTTGCCATCTCA CAGTCATCCACG GGCAGTGTATG GGAGCTGTTATC ATGGAG
Y K F A I S Q S S T G T V M G A V I M E

GGCTTCTACGTTGTCTTT GATCGGGCCCGA AAACGAATTGGC TTTGCTGTCAGC GCTTGC
G F Y V V F D R A R K R I G F A V S A C

CATGTGCACGATGAGTTC AGGACGGCAGCG GTGGAAGGCCCT TTTGTACCTTG GACATG
H V H D E F R T A A V E G P F V T L D M

GAAGACTGTGGCTACAAC ATTCCACAGACA GATGAGTCAACC CTCATGACCATA GCCTAT
E D C G Y N I P Q T D E S T L M T I A Y

GTCATGGCTGCCATCTGC GCCCTCTTCATG CTGCCACTCTGC CTCATGGTGTGT CAGTGG
V M A A I C A L F M L P L C L M V C Q W

CGCTGCCTCCGCTGCCTG CGCCAGCAGCAT GATGACTTTGCT GATGACATCTCC CTGCTG
R C L R C L R Q Q H D D F A D D I S L L

AAGTGAGGAGGCCCATGG GCAGAAGATAGA GATTCCCCTGGA CCACACCTCCGT GGTTCA
K

CTTTGGTCACAAGTAGGA GACACAGATGGC ACCTGTGGCCAG AGCACCTCAGGA CCCTCC
CCACCCACCAAATGCCTC TGCCTTGATGGA GAAGGAAAAGGC TGGCAAGGTGGG TTCCAG
GGACTGTACCTGTAGGAA ACAGAAAAGAGA AGAAGAAGCAC TCTGCTGGCGGG AATACT
CTTGGT CACCTCAAATTT AAGTCGGGAAAT TCTGCTGCTTGA AACTTCAGCCCT GAACCT
TTGTCCACCATTCCTTTA AATTCTCCAACC CAAAGTATTCTT CTTTTCTTAGTT TCAGAA
GTACTGGCATCACACGCA GGTACCTTGGC GTGTGTCCCTGT GGTACCCTGGCA GAGAAG
AGACCAAGCTTGTTTCCC TGCTGGCCAAAG TCAGTAGGAGAG GATGCACAGTTT GCTATT
TGCTTTAGAGACAGGGAC TGTATAACAAG CCTAACATTGGT GCAAAGATTGCC TCTTGA
ATTAAAAAAAAAAAAAAAAAAAAAAAAAAAA

FIGURE 4

ATGGCCCCAGCGCTGCA CTGGCTCCTGCT ATGGGTGGGCTC GGGAATGCTGCC TGCCCCAG
M A P A L H W L L W V G S G M L P A Q
GGAACCCATCTCGGCAT CCGGCTGCCCT TCGCAGCGGCCT GGCAGGGCCACC CTTGGGC
G T H L G I R L P L R S G L A G P P L G
CTGAGGCTGCCCCGGGAGACTGACGAGGA ATCGGAGGAGCC TGGCCGGAGAGG CAGCTTT
L R L P R E T D E E S E E P G R R G S F
GTGGAGATGGTGGACAA CCTGAGGGGAAA GTCCGGCCAGGG CTACTATGTGGA GATGACC
V E M V D N L R G K S G Q G Y Y V E M T
GTAGGCAGCCCCCACA GACGCTCAACAT CCTGGTGGACAC GGGCAGTAGTAA CTTTGCA
V G S P P Q T L N I L V D T G S S N F A
GTGGGGGCTGCCCCACA CCCTTTCCTGCA TCGCTACTACCA GAGGCAGCTGTC CAGCACA
V G A A P H P F L H R Y Y Q R Q L S S T
TATCGAGACCTCCGAAA GGGTGTGTATGT GCCCTACACCCA GGGCAAGTGGGA GGGGGAA
Y R D L R K G G V Y V P Y T Q G K W E G E
CTGGGCACCGACCTGGT GAGCATCCCTCA TGGCCCCAACGT CACTGTGCGTGC CAACATT
L G T D L V S I P H G P N V T V R A N I
GCTGCCATCACTGAATC GGACAAGTTCTT CATCAATGGTTC CAACTGGGAGGG CATCCTA
A A I T E S D K F F I N G S N W E G I L
GGGCTGGCCTATGCTGA GATTGCCAGGCC CGACGACTCTTT GGAGCCCTTCTT TGACTCC
G L A Y A E I A R P D D S L E P F F D S
CTGGTGAAGCAGACCCA CATTCCCAACAT CTTTCCCTGCA GCTCTGTGGCGC TGGCTTC
L V K Q T H I P N I F S L Q L C G A G F
CCCCTCAACCAGACCGA GGCAGTGGCCTC GGTGGGAGGGAG CATGATCATTGG TGGTATC
P L N Q T E A L A S V G G S M I I G G I
GACCACTCGCTATACAC GGGCAGTCTCTG GTACACACCCAT CCGGCGGGAGTG GTATTAT
D H S L Y T G S L W Y T P I R R E W Y Y
GAAGTGATCATTGTACG TGTGAAATCAA TGGTCAAGATCT CAAGATGGACTG CAAGGAG
E V I I V R V E I N G Q D L K M D C K E
TACAACTACGACAAGAG CATTGTGGACAG TGGGACCACCAA CTTTCGCTTGCC CAAGAAA
Y N Y D K S I V D S G T T N L R L P K K
GTATTGGAAGCTGCCGT CAAGTCCATCAA GGCAGCCTCCTC GACGGAGAAGTT CCCGGAT
V F E A A V K S I K A A S S T E K F P D
GGCTTTTGGCTAGGGGA GCAGCTGGTGTG CTGGCAAGCAGG CACGACCCCTTG GAACATT
G F W L G E Q L V C W Q A G T T P W N I
TTCCCAGTCATTTCACT TTACCTCATGGG TGAAGTACCAA TCAGTCCTTCCG CATCACC
F P V I S L Y L M G E V T N Q S F R I T
ATCCTTCCTCAGCAATA CCTACGGCCGGT GGAGGACGTGGC CACGTCCCAAGA CGACTGT
I L P Q Q Y L R P V E D V A T S Q D D C
TACAAGTTCGCTGTCTC ACAGTCATCCAC GGGCACTGTTAT GGGAGCCGTCA CATGGAA
Y K F A V S Q S S T G T V M G A V I M E
GGTTTCTATGTCGTCTT CGATCGAGCCCC AAAGCGAATTGG CTTTGCTGTCAG CGCTTGC
G F Y V V F D R A R K R I G F A V S A C
CATGTGCACGATGAGTT CAGGACGGCGGC AGTGAAGGTCC GTTTGTTACGGC AGACATG
H V H D E F R T A A V E G P F V T A D M
GAAGACTGTGGCTACAA CATTCCCCAGAC AGATGAGTCAAC ACTTATGACCAT AGCCTAT
E D C G Y N I P Q T D E S T L M T I A Y
GTCATGGCGCCATCTG CGCCCTCTTCAT GTTGCCACTCTG CCTCATGGTATG TCAGTGG
V M A A I C A L F M L P L C L M V C Q W
CGCTGCCTGCGTTGCCCT GCGCCACCAGCA CGATGACTTTGC TGATGACATCTC CCTGCTC
R C L R C L R H Q H D D F A D D I S L L
AAGTAAGGAGGCTCGTG GGCAGATGATGG AGACGCCCCTGG ACCACATCTGGG TGGTTCC
K
CTTTGGTCACATGAGTT GGAGCTATGGAT GGTACCTGTGGC CAGAGCACCTCA GGACCCCT
CACCAACCTGCCAATGC TTCTGGCGTGAC AGAACAGAGAAA TCAGGCAAGCTG GATTACA
GGGCTTGCACCTGTAGG ACACAGGAGAGG GAAGGAAGCAGC GTTCTGGTGGCA GGAATAT
CCTTAGGCACCACAAAC TTGAGTTGGAAA TTTTGCTGCTTG AAGCTTCAGCCC TGACCCCT
CTGCCAGCATCCTTTA GAGTCTCCAACC TAAAGTATTCTT-TATGTCCTTCCA GAAGTAC
TGGCGTCATACTCAGGC TACCCGGCATGT GTCCCTGTGGTA CCCTGGCAGAGA AAGGGCC
AATCTCATTCCCTGCTG GCCAAAGTCAGC AGAAGAAGGTGA AGTTTGCCAGTT GCTTTAG
TGATAGGGACTGCAGAC TCAAGCCTACAC TGGTACAAAGAC TGCCTCTTGAGA TAAACAA
GAA

1 MAQALPWLLLLWMGAGVLPAGHTQHGIPLRLRSGLGGAPLGLRLPRETDEE 50
 1 MAPALHWLLLLWVGSGMLPAQGTHLGIPLRLRSGLAGPPLGLRLPRETDEE 50
 51 PEEPGRRGSGFVEMVDNLRGKSGQGYVEMTVGSPQTNLILVDTGSSNFA 100
 51 SEEPGRRGSGFVEMVDNLRGKSGQGYVEMTVGSPQTNLILVDTGSSNFA 100
 101 VGAAPHPFLHRYYQRQLSSTYRDLRKGVYVPYTQGWEGELGTDLVSI PH 150
 101 VGAAPHPFLHRYYQRQLSSTYRDLRKGVYVPYTQGWEGELGTDLVSI PH 150
 151 GPNVTVRANIAAAITESDKFFINGSNWEGILGLAYAEIARPPDSLEPFFDS 200
 151 GPNVTVRANIAAAITESDKFFINGSNWEGILGLAYAEIARPPDSLEPFFDS 200
 201 LVKQTHVPNLFSLQLCGAGFPLNQSEVLASVGGSMIIGGIDHSLYTGSLW 250
 201 LVKQTHIPNIFSLQLCGAGFPLNQTEALASVGGSMIIGGIDHSLYTGSLW 250
 251 YTPIRREWYYEVIIVRVEINGQDLKMDCKEYNYDKSIVDSGTTNLRLPKK 300
 251 YTPIRREWYYEVIIVRVEINGQDLKMDCKEYNYDKSIVDSGTTNLRLPKK 300
 301 VFEEAVKSIKAASSTEKFPDGFWLGEQLVCWQAGTTPWNIFPVISLYLMG 350
 301 VFEEAVKSIKAASSTEKFPDGFWLGEQLVCWQAGTTPWNIFPVISLYLMG 350
 351 EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME 400
 351 EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAVSQSSTGTVMGAVIME 400
 401 GFYVVFDRARKRIGFAVSACHVHDEFRTAAVEGPFVTLDMEDCGYNIPQT 450
 401 GFYVVFDRARKRIGFAVSACHVHDEFRTAAVEGPFVTADMEDCGYNIPQT 450
 451 DESTLMTIAYVMAAICALFMLPLCLMVCQWRCLRLRQHDDFADDISLL 500
 451 DESTLMTIAYVMAAICALFMLPLCLMVCQWRCLRLRHQDDFADDISLL 500
 501 K 501
 501 K 501

ATGGGCTAGC ATGACTGGTGGACAGCAAATGGGT CGCGGATCCACC CAGCACGGGCATC CGG
M A S M T G G Q Q M G R G S T Q H G I R

CTGCCCCCTG CGCAGCGGCCTG GGGGGCGCCCC CTGGGGCTGCGG CTGCCCCGGGAG ACC
L P L R S G L G G A P L G L R L P R E T

GACGAAGAG CCCGAGGAGCCC GGCCGGAGGGGC AGCTTTGTGGAG ATGGTGGACAAC CTG
D E E P E E P G R R G S F V E M V D N L

AGGGGCAAG TCGGGGCAGGGC TACTACGTGGAG ATGACCGTGGGC AGCCCCCGCAG AC
R G K S G Q G Y Y V E M T V G S P P Q T

CTCAACATC CTGGTGGATACA GGCAGCAGTAAC TTTGCAGTGGGT GCTGCCCCCAC CCC
L N I L V D T G S S N F A V G A A P H P

TTCCTGCAT CGCTACTACCAG AGGCAGCTGTCC AGCACATACCGG GACCTCCGGAAG GGC
F L H R Y Y Q R Q L S S T Y R D L R K G

GTGTATGTG CCCTACACCCAG GGCAAGTGGGAA GGGGAGCTGGGC ACCGACCTGGTA AGC
V Y V P Y T Q G K W E G E L G T D L V S

ATCCCCCAT GGCCCCAACGTC ACTGTGCGTGCC AACATTGCTGCC ATCACTGAATCA GAC
I P H G P N V T V R A N I A A I T E S D

AAGTTCTTC ATCAACGGCTCC AACTGGGAAGGC ATCCTGGGGCTG GCCTATGCTGAG ATT
K F F I N G S N W E G I L G L A Y A E I

GCCAGGCCT GACGACTCCCTG GAGCCTTTCTTT GACTCTCTGGTA AAGCAGACCCAC GTT
A R P D D S L E P F F D S L V K Q T H V

CCCAACCTC TTCTCCCTGCAG CTTTGTGGTGCT GGCTTCCCCCTC AACCAGTCTGAA GTG
P N L F S L Q L C G A G F P L N Q S E V

CTGGCCTCT GTCGGAGGGAGC ATGATCATTGGA GGTATCGACCAC TCGCTGTACACA GGC
L A S V G G S M I I G G I D H S L Y T G

AGTCTCTGG TATACACCCATC CGGCGGGAGTGG TATTATGAGGTC ATCATTGTGCGG GTG
S L W Y T P I R R E W Y Y E V I I V R V

GAGATCAAT GGACAGGATCTG AAAATGGACTGC AAGGAGTACAAC TATGACAAGAGC ATT
E I N G Q D L K M D C K E Y N Y D K S I

GTGGACAGT GGCACCACCAAC CTTTCGTTTGCCC AAGAAAGTGTTT GAAGCTGCAGTC AAA
V D S G T T N L R L P K K V F E A A V K

TCCATCAAG GCAGCCTCCTCC ACGGAGAAGTTC CCTGATGGTTTC TGGCTAGGAGAG CAG
S I K A A S S T E K F P D G F W L G E Q

CTGGTGTGC TGGCAAGCAGGC ACCACCCCTTGG AACATTTTCCCA GTCATCTCACTC TAC
L V C W Q A G T T P W N I F P V I S L Y

CTAATGGGT GAGGTTACCAAC CAGTCCTTCCGC ATCACCATCCTT CCGCAGCAATAC CTG
L M G E V T N Q S F R I T I L P Q Q Y L

CGGCCAGTGG AAGATGTGGCCA CGTCCCAAGACG ACTGTTACAAGT TTGCCATCTCAC AG

FIGURE 6B

R P V E D V A T S Q D D C Y K F A I S Q
TCATCCACGG GCACTGTTATGG GAGCTGTTATCA TGGAGGGCTTCT ACGTTGTCTTTGAT
S S T G T V M G A V I M E G F Y V V F D
CGGGCCCGAA AACGAATTGGCT TTGCTGTCAGCG CTTGCCATGTGC ACGATGAGTTCA GG
R A R K R I G F A V S A C H V H D E F R
ACGGCAGCGG TGGAAGGCCCTT TTGTCACCTTGG ACATGGAAGACT GTGGCTACAACA TT
T A A V E G P F V T L D M E D C G Y N I
CCACAGACAG ATGAGTCATGA
P Q T D E S *

FIGURE 7A

ATGGCTAGC ATGACTGGTGGG CAGCAAATGGGT CGCGGATCGATG ACTATCTCTGACT TCT
M A S M T G G Q Q M G R G S M T I S D S

CCGCGTGAA CAGGACGGATCC ACCCAGCACGGC ATCCGGCTGCCC CTGCGCAGCGGC CTG
P R E Q D G S T Q H G I R L P L R S G L

GGGGGCGCC CCCCTGGGGCTG CGGCTGCCCCGG GAGACCGACGAA GAGCCCCGAGGAG CCC
G G A P L G L R L P R E T D E E P E E P

GGCCGAGGG GGCAGCTTTGTG GAGATGGTGGAC AACCTGAGGGGC AAGTCGGGGCAG GGC
G R R G S F V E M V D N L R G K S G Q G

TACTACGTG GAGATGACCGTG GGCAGCCCCCG CAGACGCTCAAC ATCCTGGTGGAT ACA
Y Y V E M T V G S P P Q T L N I L V D T

GGCAGCAGT AACTTTGCAGTG GGTGCTGCCCC CACCCCTTCCTG CATCGCTACTAC CAG
G S S N F A V G A A P H P F L H R Y Y Q

AGGCAGCTG TCCAGCACATAC CGGGACCTCCGG AAGGGCGTGTAT GTGCCCTACACC CAG
R Q L S S T Y R D L R K G V Y V P Y T Q

GGCAAGTGG GAAGGGGAGCTG GGCACCGACCTG GTAAGCATCCCC CATGGCCCCAAC GTC
G K W E G E L G T D L V S I P H G P N V

ACTGTGCGT GCCAACATTGCT GCCATCACTGAA TCAGACAAGTTC TTCATCAACGGC TCC
T V R A N I A A I T E S D K F F I N G S

AACTGGGAA GGCATCCTGGGG CTGGCCTATGCT GAGATTGCCAGG CCTGACGACTCC CTG
N W E G I L G L A Y A E I A R P D D S L

GAGCCTTTC TTGACTCTCTG GTAAAGCAGACC CACGTTCCCAAC CTCTTCTCCCTG CAG
E P F F D S L V K Q T H V P N L F S L Q

CTTGTGGT GCTGGCTTCCCC CTCAACCAGTCT GAAGTGCTGGCC TCTGTGCGAGGG AGC
L C G A G F P L N Q S E V L A S V G G S

ATGATCATT GGAGGTATCGAC CACTCGCTGTAC ACAGGCAGTCTC TGGTATACACCC ATC
M I I G G I D H S L Y T G S L W Y T P I

CGGCGGGAG TGGTATTATGAG GTCATCATTGTG CGGGTGGAGATC AATGGACAGGAT CTG
R R E W Y Y E V I I V R V E I N G Q D L

AAAATGGAC TGCAAGGAGTAC AACTATGACAAG AGCATTGTGGAC AGTGGCACCACC AAC
K M D C K E Y N Y D K S I V D S G T T N

CTTCGTTTG CCAAGAAAGTG TTTGAAGCTGCA GTCAAATCCATC AAGGCAGCCTCC TCC
L R L P K K V F E A A V K S I K A A S S

ACGGAGAAG TTCCCTGATGGT TTCTGGCTAGGA GAGCAGCTGGTG TGCTGGCAAGCA GGC
T E K F P D G F W L G E Q L V C W Q A G

ACCACCCCTT GGAACATTTTCC CAGTCATCTCAC TCTACCTAATGG GTGAGGTTACCAAC
T T P W N I F P V I S L Y L M G E V T N

FIGURE 7B

CAGTCCTTCC GCATCACCATCC TTCCGCAGCAAT ACCTGCGGCCAG TGGAAGATGTGG CC
Q S F R I T I L P Q Q Y L R P V E D V A

ACGTCCCAAG ACGACTGTTACA AGTTTGCCATCT CACAGTCATCCA CGGGCACTGTTA TG
T S Q D D C Y K F A I S Q S S T G T V M

GGAGCTGTTA TCATGGAGGGCT TCTACGTTGTCT TTGATCGGGCCC GAAAACGAATTG GC
G A V I M E G F Y V V F D R A R K R I G

TTTGCTGTCA GCGCTTGCCATG TGCACGATGAGT TCAGGACGGCAG CGGTGGAAGGCC CT
F A V S A C H V H D E F R T A A V E G P

TTTGTCACCT TGGACATGGAAG ACTGTGGCTACA ACATTCCACAGA CAGATGAGTCAT GA
F V T L D M E D C G Y N I P Q T D E S *

FIGURE 8A

ATGACTCAGCATGG TATTCGTCTGCC ACTGCGTAGCGG TCTGGGTGGTGC TCCACTGGGT
M T Q H G I R L P L R S G L G G A P L G -
CTGCGTCTGCCCCG GGAGACCGACGA AGAGCCCCGAGGA GCCCGGCCGGAG GGGCAGCTTT
L R L P R E T D E E P E E P G R R G S F -
GTGGAGATGGTGA CAACCTGAGGGG CAAGTCGGGGCA GGGCTACTACGT GGAGATGACC
V E M V D N L R G K S G Q G Y Y V E M T -
GTGGGCAGCCCCC GCAGACGCTCAA CATCCTGGTGA TACAGGCAGCAG TAACTTTGCA
V G S P P Q T L N I L V D T G S S N F A -
GTGGGTGCTGCCCC CCACCCCTTCCT GCATCGCTACTA CCAGAGGCAGCT GTCCAGCACA
V G A A P H P F L H R Y Y Q R Q L S S T -
TACCGGGACCTCCG GAAGGGCGTGTA TGTGCCCTACAC CCAGGGCAAGTG GGAAGGGGAG
Y R D L R K G V Y V P Y T Q G K W E G E -
CTGGGCACCGACCT GGTAAGCATCCC CCATGGCCCCAA CGTCACTGTGCG TGCCAACATT
L G T D L V S I P H G P N V T V R A N I -
GCTGCCATCACTGA ATCAGACAAGTT CTTTCATCAACGG CTCCAAGTGGGA AGGCATCCTG
A A I T E S D K F F I N G S N W E G I L -
GGGCTGGCCTATGC TGAGATTGCCAG GCCTGACGACTC CCTGGAGCCTTT CTTTGACTCT
G L A Y A E I A R P D D S L E P F F D S
CTGGTAAAGCAGAC CCACGTTCCCAA CCTCTTCTCCCT GCAGCTTTGTGG TGCTGGCTTC
L V K Q T H V P N L F S L Q L C G A G F -
CCCCTCAACCGATC TGAAGTGCTGGC CTCTGTGCGAGG GAGCATGATCAT TGGAGGTATC
P L N Q S E V L A S V G G S M I I G G I -
GACCACTCGCTGTA CACAGGCAGTCT CTGGTATACACC CATCCGGCGGGA GTGGTATTAT
D H S L Y T G S L W Y T P I R R E W Y Y -
GAGGTCATCATTGT GCGGGTGGAGAT CAATGGACAGGA TCTGAAAATGGA CTGCAAGGAG
E V I I V R V E I N G Q D L K M D C K E
TACAACTATGACAA GAGCATTGTGGA CAGTGGCACCAC CAACCTTCGTTT GCCCAAGAAA
Y N Y D K S I V D S G T T N L R L P K K -
GTGTTTGAAGCTGC AGTCAAATCCAT CAAGGCAGCCTC CTCCACGGAGAA GTTCCCTGAT
V F E A A V K S I K A A S S T E K F P D -
GGTTTCTGGCTAGG AGAGCAGCTGGT GTGCTGGCAAGC AGGCACCACCCC TTGGAACATT
G F W L G E Q L V C W Q A G T T P W N I -
TTCCCAGTCATCTC ACTCTACCTAAT GGGTGAGGTTAC CAACCAGTCCTT TCGCATCACC
F P V I S L Y L M G E V T N Q S F R I T -
ATCCTTCCGCAGCA ATACCTGCGGCC AGTGGAAGATGT GGCCACGTCCCA AGACGACTGT
I L P Q Q Y L R P V E D V A T S Q D D C -

FIGURE 8B

TACAAGTTTGCCAT CTCACAGTCATC CACGGGCACTGT TATGGGAGCTGT TATCATGGAG
Y K F A I S Q S S T G T V M G A V I M E -
GGCTTCTACGTTGT CTTTGATCGGGC CCGAAAACGAAT TGGCTTTGCTGT CAGCGCTTGC
G F Y V V F D R A R K R I G F A V S A C -
CATTAG
H *

FIGURE 9

IP: Ab 369						←CTF99
IP: Ab C8						←CTF99
	Asp2-1 antisense	Asp2-2 reverse	Asp2-1 reverse	Asp2-2 antisense	mock transfected	

FIGURE 10

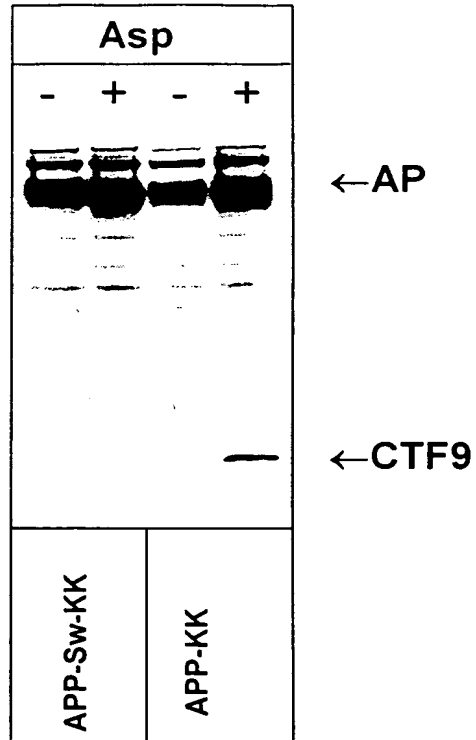


FIGURE 11

MAQALPWLLLWMGAGVLPAGHTQHGI RLPLRSGLGGA PLGLRLPRETDEE
PEEPGRRGSFVEMVDNLRGKSGQGYVEMTVGSPPQTLNILVDTGSSNFA
VGAAPHPFLHRYRQLSSTYRDLRKGVVPYTQGWEGELGTDLVSI PH
GPNVTVRANIAAITESDKFFINGSNWEGILGLAYAEIARPDDSLEPPFDS
LVKQTHVPNLFSLQLCGAGFPLNQSEVLASVGGSMI IGGIDHSLYTGSLW
YTPIRREWYYEVI I VRVEINGQDLKMDCKEYNYDKSIVDSGTTNLR LPKK
VFEEAVKSIKAASSTEKFPDGFWLGEQLVCWQAGTTPWNI FPVISLYLMG
EVTNQSFRTILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME
GFYVVFDRARKRIGFAVSACHVHDEFRTAAVEGPFVTLDMEDCGYNIPQT
DES

FIGURE 12

MAQALPWLLLWMGAGVLPAHGTQHGI RLP LRSGLGGAPLGLRLPRETDEE
PEEPGRRGSFVEMVDNLRGKSGQGYVEMTVGSP PQTLNILVDTGSSNFA
VGAAPHPFLHRYYQRQLSSTYRDLRKGVYVPYTQGWEGELGTDLVSI PH
GPNVTVRANIAAITESDKFFINGSNWEGILGLAYAEIARPDDSLEPFFDS
LVKQTHVPNLFSLQLCGAGFPLNQSEVLASVGGSMI IGGIDHSLYTGSLW
YTPIRREWYYEVII VRVEINGQDLKMDCKEYNYDKSIVDSGTTNLR LPKK
VFEEAVKSIKAASSTEKFPDGFWLGEQLVCWQAGTTPWNI FPVISLYLMG
EVTNQSF RITILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME
GFYVVFDRARKRIGFAVSACHVHDEFRTAAVEGPFVTLDMEDCGYNIPQT
DESHHHHHH